The Arboretum Bulletin

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RHODODENDRON CUTTINGS

A Revolutionary Method of Growing Them

By HERBERT IHRIG

THE publication of the English Rhododendron Association's 1939 year book brings to the public the most outstanding change in rhododendron propagation that has occurred in one hundred years of rhododendron culture.

This article by G. G. Nearing and Charles H. 'Connors is soon to be published by the New Jersey State Agricultural Experiment Station and will then be available to all who desire to make application for it.

This method has previously been summarized by Mr. Nearing, the senior author, in *American Home* magazine, and further information is given by him in the May issue of *Real Gardening*. The full details, however, as published by the Rhododendron Association, reveal a most fascinating story—one of vision, perseverance and courage to try methods that were contrary to all accepted practice. The result is a new method of propagating the finer rhododendrons by buds at a cost that should bring them within the reach of practically all gardeners. It likewise attains the ideal of all propagators in growing plants "on their own roots" and can be done by an amateur without chemicals, greenhouse, heat or other expensive equipment. It also has proved successful in rooting many cuttings other than rhododendrons.

All varieties of rhododendrons do not root with equal success under the Nearing method. Some run as high as 96 per cent, others considerably less, but the average is far in advance of any previous method. There are tables showing the varieties experimented with, dates of planting and removal, numbers and percentages rooted, as well as results with various cuttings other than rhododendrons.

These experiments, however, have been made with the older hardy varieties that are not considered up to standard on the Pacific Coast, but there is every reason to believe the newer English and Dutch hybrids will respond equally well to the same treatment.

Perhaps the most outstanding reversal of the usual practice is the absence of "intentional" drainage and lack of ventilation. Light also plays an important part, for while cuttings do not receive direct sunlight except for short periods mornings and evenings, a strong northern light is a direct requirement.

The other essentials of this method are a special but simple propagating frame that is partially sunk in the ground, and a definite formula for propagating medium.

All these factors are the result of numerous experiments, and users are cautioned to follow methods closely. This review is not therefore intended to be complete, and interested parties who do not have the Rhododendron Year Book, should apply to the New Jersey Agricultural Experimental Station, at New Brunswick, N. J., for complete information.

The propagation frame is a tight box-like compartment, with solid tongue and groove bottom and sloping sides, with a standard hot-bed sash resting on the top.

The propagating medium is in three definite layers: first, a mixture of mushroom manure and peat, which might be termed a moisture and nourishment-containing layer; the second, of sand and peat, which could be termed a root-producing layer; and last, a layer of pure sand.

The cuttings, which are of a definite length, are taken of new wood, without a heel, and placed at a specific depth. The watering method is simple. Handling, size and kind of cuttings, sanitary treatment and other details are fully covered.

The hood or shade used by Mr. Nearing is patented, but this particular method of shading is not considered essential. The same results can be obtained by a north wall or other suitable arrangements.

While this entire method is based on commercial production, on a large scale, at a low cost—it is exceedingly valuable to the amateur who, at a very small cost and little attention, can reproduce the fine garden varieties in quantities, to meet individual needs.

THE UNIVERSITY OF WASHINGTON ARBORETUM

By Dr. John H. Hanley, *Director*

For obvious reasons many people do not seem to understand just what an arboretum is. Too often some confusion has arisen because of the dictionary definition of the word itself. To publicize the usual definition that "an arboretum is a collection of trees and shrubs arranged for scientific purposes" is to engender apathy on the part of the average person toward such a project. The word "scientific" is, in itself, somewhat frightening. It remains for those organizations who are actively backing the arboretum to break down such feelings and to strive to present the arboretum in its true light.

Obviously, it would be unwise to attempt to create an arboretum such as ours for the benefit of the few people who are scientifically inclined. On the other hand, we should not fail to admit that we do intend to maintain the fundamentals of plant science especially insofar as they relate to botanical classification and nomenclature. Can we possibly condone the two points of view? Can we maintain the attitude of the plant scientist on the one hand, at the same time, justifiedly profess a desire to create a thing in which the majority of people—the non-scientifically minded—will be interested It will be very simple. Actually, there is no problem involved here. Such a statement is not based upon abstract theory, either, but rather originates from actual facts presented by other arboreta and botanic gardens.

At the Missouri Botanical Garden in St. Louis records have been made of the types of people who come to see the plant collections. These records show that 98 per cent of all visitors are *not* scientifically inclined and are *not* interested in the scientific aspects of plant study. Rather are they types of people whose interests in botany are quite casual, probably centering around a few house plants, a window box, or a small garden. They come to the botanic garden because they *know* they will see magnificent displays of plants and flowers that will interest them. Apparently a botanic garden or an arboretum just cannot avoid attracting people; the appeal is inherent in nature and universal in extent. This would be true even without laying particular stress upon good planting design or upon outstanding groups of flowering shrubs. Actually, since the very inception of the Washington Arboretum, its development has proceeded with the definite idea of creating something that can be appreciated by all people, irrespective of how much or how little they know about plant culture and botany. Its appeal will he directed toward the everyday man-on-the-street as well as to gardeners and plant scientists.

Another aspect of our Arboretum activities should be of interest to the business man of the Northwest. With the decline in the shipping and lumber industries, it has become increasingly important to build up other means of income. At the moment much attention is being focused upon the importance of the tourist trade. Last year 800,000 vacationists were entertained in the Northwest. In order to encourage this particular industry it is essential to develop every possible feature. The Arboretum is just one more thing that will be appealing to tourists. That such an area can be extremely attractive to vast numbers of people is evidenced by the fact that the Arnold Arboretum has entertained *in one day* as many as 50,000 people when the lilacs and azaleas were at the height of their bloom. In view of the plans already developing for our rhododendron, azalea, flowering cherry and lilac collections is not the above data from Arnold Arboretum sufficient evidence that we, too, will be able to attract numbers of visitors and do our share in building the Northwest as a mecca for vacationists?

We are creating a 267-acre garden spot, emphasizing tree and shrub groups until our financial situation is strengthened. The two principal features will be Rhododendron Glen, a natural little valley nine acres in extent, and Azalea Way, a grass walk three-quarters of a mile long, on both sides of which will be used many varieties of azaleas and flowering cherries.

As to the actual progress on these areas to date, the whole of Azalea Way has heen planted to grass; the grading along the side slopes is complete, and the soil is being worked over by hand and a heavy mulch of peat and sand is heing worked in where needed. The area will be ready for planting by fall and the flowering cherries which will be used to blend the azalea planting into the background of native firs, cedars and hemlocks should be in place in the fall.

In Rhododendron Glen, where extensive rock work has been planned, development is satisfactory. The collection of rhododendrons given to the Arboretum by Mrs. Tenny now occupies its permanent position. The laying of the rocks in other parts of the area is being pushed for completion by June 1 and much of the area will be mulched and worked during the summer so that planting can begin by fall.

From many points of view the Washington Arboretum is truly a favored one. With an exceptionally fine climate and with a wide variety of soils that will be suitable for temperate plants of all kinds, and with the fine cooperation that is being tendered by people throughout the state, the ultimate creation of a world-famous beauty spot can never be in doubt.

ARBORETUM NOTES

The permanent staff at the Arboretum was increased by one on March 1 when Mr. Herbert Pruvey was hired as propagator. Mr. Pruvey comes with a very complete knowledge of horticultural practice and is just the type of person needed by our organization. He is English by birth, took his early education in England, apprenticed there for six years in horticultural organizations and then spent ten years with the Great Britain Forestry Division handling trees and shrubs. In 1907, at the age of 24, he came to Canada and worked for three years in a nursery and commercial greenhouse at Saskatoon. Mr. Pruvey's next stop was in Vancouver, where he was head of the Horticultural Division of the government agricultural experiment station. Here he had charge of a small arboretum of 6,000 specimens, including ornamentals, tree fruits, drug plants, and nut crops. In 1923 he came to the United States, received his naturalization papers in 1928, and has spent the last few years operating a small nursery and doing landscape work.

A great deal of student activity has elicited some attention at the Arboretum recently. The director, Dr. Hanley, is dividing time with Dr. C. L. Hitchcock of the department of Botany at the University in a course in ornamental plants. Each Monday afternoon the class meets at the Arboretum for instruction in plant culture and breeding. It is surprising to see the active interest which the students have manifested in some of the newer aspects of plant study. Earlier in the year the class inaugurated several experiments in the use of the commercial hormones for inducing more rapid rooting of cuttings. Cuttings of several kinds of broad-leaved evergreens were treated, some with Hormodin, others with Rootone. Next week they are scheduled to come out of the sand and the results noted.

Another experiment undertaken by the class is an attempt to demonstrate the value of a pure sand medium for the germination of seeds, as against the more or less conventional seed-soil mixture of one-third loam, one-third sand, and one-third leaf mold. Experiments conducted at the Connecticut Agricultural Station have shown that the sand method, coupled with the use of liquid culture solutions containing nitrogen, phosphorus and potassium principally, is superior to the old accepted system. Hence the desire of the students to discover for themselves how the method works. The preliminary results will be forthcoming in a few weeks.

Right now, with the rhododendrons and azaleas at the height of their bloom, the class is engaged in making crosses between a number of species and varieties as a part of their work in plant breeding. This is most fascinating laboratory work and partly because it has so many interesting possibilities. One of the angles that the students are investigating is the possibility of using an inbreeding method for developing superior strains and varieties. Inbreeding is generally frowned upon as being deleterious, but good results from its use have been achieved with agricultural crop plants. This is taken as an indication that there might be something in it from the standpoint of ornamentals also.

The Arboretum acknowledges an interesting shipment of plants in mid-May from the state forestry department at Springfield, Illinois. Three hundred and eighty-nine cypress trees (of small size) were received and lined out in the nursery row. There they will stay until next winter when a few of them will be planted in a wet spot in the pinetum. The remainder will go out to the farthermost limits of the bog with the hope that a replica of a southern cypress swamp can be created.

Before the end of May the dredging work in the lagoon area will be started again. This is an important part of our project for several reasons. In the first place it means that the lagoon section, as outlined by the Olmsted Bros., architects, will be brought nearer to completion. Secondly, a large quantity of fine peat will be thrown out for use elsewhere in the arboretum.

The depth of the peat in the bog area is quite variable. In a few places it goes down as much as 40 feet; at other points to only a few feet with an approximate average at about the 18-foot level.

We feel very fortunate in having such a quantity of organic material available to us. It can be used in a great many ways—to mix with some of our greenhouse soils; to be incorporated into the surface of the ground for particular plants which require an acid medium; and to be used as a mulch over many acres where the soil is thin and in need of organic matter.

The rhododendron planting in the nursery has just been reorganized. All plants that were big enough in greenhouses, lath houses, and cold frames, were brought together and planted out in an orderly fashion.

The genus rhododendron is a rather extensive and complicated one; the numerous species are grouped into series and sub-series, based upon their natural relationships.

In re-arranging the nursery planting, the rhododendron series and sub-series have been put out in alphabetical order. It was a difficult task, requiring the greater part of three weeks to complete, but it is most satisfying to realize that we now know exactly how many species and varieties we have and exactly where each one is planted.

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